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REFORMING INTEREST PROVISIONS IN FEDERAL WATER LAWS COULD SAVE --ETC(U)  
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BY THE COMPTROLLER GENERAL

# Report To The Congress OF THE UNITED STATES

## Reforming Interest Provisions In Federal Water Laws Could Save Millions

The Department of the Interior's Bureau of Reclamation and the Army's Corps of Engineers build and manage most of the Nation's costly water projects.

Federal water laws generally require that when projects are completed and water is delivered, the beneficiaries (water users) who receive irrigation and municipal and industrial water must repay their share of project costs. However, reclamation law and water supply law do not require repayment of interest on irrigation costs or full repayment of interest costs on municipal and industrial water projects.

In order to have municipal and industrial water users fully repay total interest costs, the Congress should reform pertinent provisions in the law. Also, because conditions have changed since Federal provisions for repayment of irrigation costs were established, the Congress may wish to consider including interest costs in the repayment provisions for irrigation projects.

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To the President of the Senate and the  
Speaker of the House of Representatives

This report discusses the repayment requirements for water resources projects and measures the cost to the Federal Government of providing interest subsidies to users of Federal water projects.

We made this review to take a renewed look at the full cost of financing water project construction for irrigation and municipal and industrial water users. Recent public concern about the rising cost of Government operations emphasizes the need to reduce expenses wherever possible. This report recommends legislative changes to more fully recover the Government's cost to build water projects and suggests that the Congress reconsider the interest-free subsidy in deciding future project authorizations.

Copies of this report are being sent to appropriate House and Senate committees; the Director, Office of Management and Budget; the Secretaries of the Army, Defense, Treasury, and Interior; and other interested parties.

*Charles A. Brasher*

Comptroller General  
of the United States

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COMPTROLLER GENERAL'S  
REPORT TO THE CONGRESS

REFORMING INTEREST  
PROVISIONS IN FEDERAL  
WATER LAWS COULD SAVE  
MILLIONS

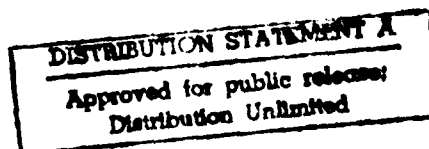
D I G E S T

The cost of financing the construction of Federal water projects for irrigation and municipal and industrial customers has increased substantially since the first projects were built in the early 1900's. Today's water projects can cost hundreds of millions of dollars to construct, interest rates are much higher, and the allowed repayment periods are much longer. (See pp. 10 to 12.)

Who should pay for building these projects? By law, water project costs--with the exception of interest costs associated with irrigation and future municipal and industrial water supply--are to be repaid by the water users. Although the law has not required the interest to be paid by irrigators, it has been required in part for municipal and industrial users. As a result, taxpayers are subsidizing these users by paying millions of dollars in interest costs related to financing this construction. (See pp. 3, 13, 18, and 20.)

The interest subsidy issue is receiving increased attention today as the Congress tries to reduce Federal expenditures. Existing Federal water project repayment laws and policies have been repeatedly criticized by commissions, special tasks forces, and others for heavily subsidizing water users. Yet, reform has not occurred. Because conditions today have changed since repayment policies were established, GAO took a renewed look at the full cost of financing water projects to determine whether expenditures can be reduced. (See pp. 1 to 3.)

Today, with high interest rates, the Government finds itself borrowing at an interest rate several times as high as the interest rate it charges those it lends money to. The difference is now paid by the taxpayer. (See p. 19.)



## FEDERAL LAW GOVERNS INTEREST COST REPAYMENT PROVISIONS

The Congress mandated user repayment requirements beginning with the Reclamation Act of 1902. This act, which is the cornerstone of Federal water law, provided construction funds for water projects through a Reclamation Fund that would be financed with money obtained from public land sales in the West and water user repayments. Almost immediately, water users had difficulties meeting their repayment obligations. As a result, the U.S. Treasury was required to fund water projects with additional revenues obtained through public borrowing. (See pp. 6 to 8.)

In general, repayment provisions for irrigation users provide that water users will repay the Federal construction costs without interest in installments over a period of time--usually 50 years. Later, reclamation laws and the Water Supply Act of 1958 provided that municipal and industrial water users would also repay their assigned costs, with interest, for a period of up to 50 years. Currently, the United States has about 4,000 repayment contracts with these water users that total more than \$5.1 billion, with \$4.6 billion yet to be repaid. (See pp. 3, 8, 9, and 11.)

## EXISTING INTEREST PROVISIONS PREVENT FULL REPAYMENT OF THE GOVERNMENT'S BORROWING COSTS

The Government is not fully recovering its borrowing costs to fund project construction because the Reclamation Act of 1902 and other Federal water laws specifically allow

- financing construction costs without interest (see p. 13),
- using interest rates that do not reflect the Treasury's borrowing costs (see p. 17),
- using an interest rate in effect at the start of project construction for all subsequent interest charges rather than the interest rates in effect during each year construction funds were spent, (see pp. 18 to 20), and

--permitting the use of simple rather than compound interest in negotiating repayment contracts. (See p. 21.)

For example, the Tualatin Project in Oregon, which provides irrigation water for about 17,000 acres, will receive interest-free financing of more than \$145 million on its \$30 million construction cost over a 60-year repayment period. Municipal and industrial water users who use future water supplies from Federal water projects also receive interest-free financing for a period of up to 10 years. Trinity River Authority has a contract for the future use of the Lakeview, Texas, project's entire 142,900 acre-feet of municipal and industrial water supply. The water users' share of costs is estimated to be about \$46 million over a 50-year repayment period. No repayment is required during the first 10 years if the authority chooses not to take water during that period. The 10-year, interest-free subsidy for future water supply in the Lakeview, Texas, project amounts to about \$53 million. (See pp. 9, and 13 to 15.)

The law also requires using an interest rate formula to determine interest charges for municipal and industrial users. These charges today, however, are almost 5 percent lower than the interest rates incurred by the U.S. Treasury. This difference over the 50-year repayment period of a project will cost the U.S. Treasury millions of dollars. (See pp. 17 to 19.)

In addition, using a fixed interest rate charge at the start of construction rather than the rates in effect when the money was spent, will allow the municipal and industrial water users of the Canadian River Project in Texas, for example, to repay \$1.2 million less than the Governments' borrowing costs. Similarly, had the agency used compound rather than simple interest to compute the borrowing cost during construction for the Texas project, the users would have had to pay the Government an additional \$4 million in interest costs. Using compound interest when computing interest during construction provides a more accurate portrayal of the Treasury's actual financing costs. (See pp. 20 to 23.)



On 4 projects of 100 reviewed, GAO calculated more than \$667 million in taxpayer-provided interest subsidies. The total amount of interest subsidies for all Federal water projects is in the billions of dollars. (See pp. 13, 21, and 23.)

#### RECOMMENDATIONS TO THE CONGRESS

GAO recommends that the Congress amend Federal laws to ensure that municipal and industrial water users fully repay their share of interest costs.

Specifically, GAO recommends that the Congress require the Secretaries of the Army and Interior to

- use interest rates (developed by the U.S. Treasury) for computing interest during construction and interest on the unpaid balance that more appropriately reflect the Treasury's cost of borrowing funds,
- compute interest during construction using the interest rates (as developed in the preceding recommendation) in effect during each year construction funds are spent, and
- compute interest during construction on a compound rather than a simple interest basis.

GAO also recommends that where possible these provisions be applied to existing projects. (See p. 24.)

#### MATTERS FOR CONSIDERATION BY THE CONGRESS

Because construction costs and interest rates have risen and repayment periods are longer, GAO believes the Congress should take a fresh look at the interest-free subsidy in deciding future project authorizations. (See p. 16.)

#### AGENCY COMMENTS AND GAO'S EVALUATION

The Departments of the Army and the Interior agreed that beneficiaries should pay for the cost of water projects wherever possible. (See app. I and IV.)

The Department of the Treasury, from a cash management perspective, endorsed updating interest rates charged and believed adopting GAO's recommendations would serve the best interest of the Government. (See app. II.)

The Water Resources Council, while agreeing that current policies provide subsidies and that GAO recommendations are correct if the Congress wishes to change the current system, did not agree that water subsidies are without merit given other Federal subsidies that occur in other programs. (See app. III.)

GAO believes that reconsidering repayment intent and interest subsidy costs will help the Congress develop equitable financing policies for Federal water projects.

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**ABBREVIATIONS**

GAO	General Accounting Office
M&I	municipal and industrial

## CHAPTER 1

### INTRODUCTION

Existing Federal water project repayment laws and policies have been repeatedly criticized for heavily subsidizing water users. Congressional committees, Presidential study task forces, advisory committees, and many others 1/ have looked at existing projects and concluded that reforms are needed. They feel that the Federal Government has paid too much of water project costs and required insufficient payment from the direct beneficiaries (water users).

#### WATER PROJECTS--WHEN DID THE FEDERAL GOVERNMENT GET INVOLVED?

The Federal Government became involved in financing and building irrigation water projects with the passage of the Reclamation Act of 1902. Turn-of-the-century water projects were built primarily to reclaim arid and semiarid land in the western States and to meet the then national objective of "developing the West." Such projects were small, single-purpose irrigation facilities that seldom cost much more than a few million dollars to build. They were not intended to be financed by the U.S. Treasury but through a self-sufficient Reclamation Fund, set up by the act, that would impose no financial burden on U.S. taxpayers. These water projects were to be self-sufficient in that the 1902 act incorporated a user-pay principle that required irrigation water users to repay the capital construction costs to the Reclamation Fund and assume financial responsibility for operating and maintaining the projects.

Although Federal financial involvement in irrigation water projects began early in the 1900's, Federal financing for municipal and industrial (M&I) water projects is a more recent development. The Reclamation Project Act of 1939 and the Water Supply Act of 1958 authorize the Federal Government to help provide water to meet present M&I water needs. Both acts require or authorize repayment of water project construction costs with interest for present M&I water supply. Under the Water Supply Act, which also provides for estimated future M&I water needs, the cost for future water supply is interest-free for up to 10 years.

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1/The Cooke Commission (the President's Water Resources Policy Commission, 1950); the Second Hoover Commission (Commission on Organization of the Executive Branch of the Government, 1955); President Eisenhower's Cabinet Advisory Committee (Secretary of Agriculture, Secretary of Defense, and Secretary of the Interior (Chairman), 1955); National Water Commission (National Water Commission, 1973); and President Carter's Water Policy Review, 1978.

## WHO BUILDS FEDERAL WATER PROJECTS?

The Department of the Interior's Bureau of Reclamation and the Army's Corps of Engineers build and manage most of the Nation's water projects. A typical existing water project of the 1980's consists of a large dam and reservoir serving a variety of users. In addition to providing water for irrigation and M&I uses, it also can provide hydroelectric power generation, fish and wildlife enhancement, outdoor recreation, flood control, and navigational uses. Projects can range in size from small pumping plants to huge, multipurpose projects such as the \$6 billion Central Valley Project in California. They include dams and reservoirs; powerplants; and thousands of miles of canals, pipelines, tunnels, and drains throughout the country.

The Bureau maintains more than 168 water projects. Project facilities include 331 dams, 236 reservoirs, 50 hydroelectric powerplants, and more than 7,000 miles of canals. The Bureau projects delivered 24 million acre-feet <sup>1/</sup> of water to 153,000 farms with more than 10 million acres of land being irrigated. The projects also delivered almost 800 billion gallons of M&I water to almost 19 million people.

The Corps maintains 275 flood control dams, many of which include storage capacity for irrigation, water supply, and hydroelectric power generation. Corps projects currently have more than 9 million acre-feet of storage space for M&I water uses, 1 million acre-feet of storage space for irrigation, and another 56 million acre-feet of storage space to be used jointly for irrigation and other purposes, primarily for the generation of hydroelectric power. <sup>2/</sup>

Together, the Bureau and the Corps anticipate spending about \$10.8 billion for all types of water project construction through 1986. In addition, they have a backlog of more than \$24 billion in planned or congressionally authorized projects not yet under construction.

## HOW ARE WATER PROJECTS FINANCED?

Water projects are largely financed by the Federal Government. Funds are advanced for project construction and upon project completion the Government requires the irrigation and M&I water users to repay the Federal costs in installments over periods of up to

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<sup>1/</sup>An acre-foot is 325,851 gallons, or the amount of water needed to cover 1 acre 1 foot deep.

<sup>2/</sup>Most Corps irrigation water is located in the 17 western States and is marketed by the Bureau.

50 years. Repayment contracts between water users and the United States obligate users to repay their share of project costs. Currently, about 4,000 contracts are in effect, totaling more than \$5.1 billion, with \$4.6 billion yet to be repaid.

Repayment policies and contract terms were established by the Congress and through administrative decisions by the Corps and Bureau over a long period of time. Congressional statements of repayment policy are contained in reclamation, flood control, and water supply acts, as well as in specific acts authorizing individual water projects. Project costs properly allocated for purposes of irrigation, power, and M&I water supplies must be repaid. By law, the costs properly allocated for flood control, navigation, fish and wildlife enhancement, and recreation, for the most part, are nonreimbursable; these uses are considered benefits accruing to the public-at-large.

Under current law irrigation water users repay their share of project costs without interest. These interest-free payments generally are required to be made within 50 years, on the basis of the irrigator's ability to pay as determined by the Bureau's economic analysis of the specific project. 1/ Irrigation costs above the water users' ability to pay are to be repaid by revenues from surplus hydroelectric power sales and other miscellaneous project revenues, again without an interest charge.

M&I water supply construction costs are also to be repaid within 50 years, but with interest.

#### OBJECTIVE, SCOPE, AND METHODOLOGY

Our objective was to examine repayment requirements and to measure the cost to the Federal Government of providing the subsidies to users of water from Federal projects. Considering congressional intent to obtain cost recovery from water users and the desire to reduce the financial burden on the U.S. taxpayer, we specifically addressed the largest water subsidy provision--interest costs (the cost of financing water projects.)

To accomplish our overall objective, we reviewed the repayment contracts and associated documentation relating to more than 100 water projects. We obtained geographical diversity by visiting Bureau regional offices in California, Idaho, and Texas and Corps

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1/This repayment relationship and the concept of ability to pay are discussed in more detail in our prior reports entitled "More Effective Procedures Are Needed for Establishing Payment Terms and Development Periods For Irrigation Projects," RED-75-372, May 23, 1975, and "Federal Charges For Irrigation Projects Reviewed Do Not Cover Costs," PAD-81-07, March 13, 1981.

district offices in Texas, Kansas, and Oklahoma. Most water supply contracts are managed at these Corps and Bureau locations.

Project repayment requirements are unique, created through general and specific congressional authorization, interpretation of Federal water law, and longstanding administrative actions. Consequently, we did not use scientific sampling techniques to statistically quantify the total amounts of subsidies throughout the water and reclamation programs.

The projects discussed in this report focus in on the largest water subsidy--interest costs. The examples were chosen because they illustrate the general repayment practices existing in reclamation and water programs. All projects reviewed, while containing varied terms of repayment, contained the same subsidies, some in larger or smaller amounts. The amount of interest costs for these projects is shown by contrasting today's cost of interest to the 1902 economic condition when interest-free financing was first authorized. Our methodology for determining the specific interest subsidy amounts is explained in detail in chapters 3 and 4.

The congressional repayment philosophy was researched and documented based on a review of congressional hearings and floor debates. Specific repayment provisions within the reclamation acts and subsequent water supply laws were researched. Federal water agencies' legal interpretations and their policies and practices were also reviewed and considered.

Historical developments and previous positions on water law reform taken by the numerous water commissions and national task forces were researched and considered in formulating conclusions and recommendations. Our previously published findings and those of other audit or inspector general reports were also considered to document the continued existence and magnitude of the subsidies.

This report does not question whether a project should have been built or whether costs are allocated properly among the many project purposes, nor does it try to determine whether the interest subsidy in the amount discussed is warranted in terms of benefits and cost. It also does not address the question of users' ability to pay. Rather, it addresses who is paying for projects once they are built, given the law, congressional intent, and current conditions. This information, coupled with congressional consideration of possible national and regional benefits, should help the Congress develop equitable financing policies for Federal water projects.



## CHAPTER 2

### CONGRESSIONAL INTENT FOR REPAYMENT IS CLEAR

Although debate occurred concerning how a reclamation program should be financed, when the Congress passed the initial reclamation act in 1902, it clearly intended that water project costs should be repaid by those that use the projects. The Congress, however, did exempt irrigation users from repaying the interest costs associated with building water projects. Since 1902 numerous laws and amendments have been passed that have modified repayment requirements. Even so, we believe these legislative changes, which include provisions for how construction and interest costs would be repaid, still support the repayment requirements of the initial act.

### A PAYBACK PHILOSOPHY FROM THE BEGINNING

At the turn of the century, the Nation's goal to expand westward was linked to the development of irrigation water supplies. Although a lot of early development had already taken place through State and private efforts, the cost of such undertakings eventually became too costly for the States and private enterprises. Therefore, a Federal program was created to finance and construct irrigation facilities.

In 1902 most Members of Congress agreed that a Federal reclamation program to build water projects was necessary. However, debate arose concerning how the program should be financed. One view advocated creating a special "reclamation fund" from which new-project construction would be financed. The fund was supposed to be self-sufficient; that is, no money would be needed from the Treasury. It would be entirely supported by revenues generated through the sale of public lands and project cost repayment. The principle was simple: build one project, obtain repayment, and build another. According to the then House Committee on Irrigation of Arid Lands:

"The use of the proceeds of the sales of the public lands in the Territory named for the purposes contemplated does not pledge the National Government to any appropriation directly from the National Treasury at any time in the future for the purpose of aiding directly or indirectly in the reclamation of arid lands \* \* \*."

\* \* \* \* \*

"The plan presented for the prosecution of the work is a simple one, imposes no dollar of taxation upon any American citizen \* \* \* [and] \* \* \* provides a businesslike method for the accomplishment of great undertakings \* \* \*."

Other members of the House committee did not agree, suggesting that the program was unfair and would eventually require financial assistance from the Treasury.

"If the Government commences the construction of such reservoirs at different points and the proceeds of sales of public lands are exhausted before they are completed and put in operation, a demand will immediately be made for an appropriation out of the public treasury \* \* \*."

\* \* \* \* \*

"The unwisdom of conferring all this power, of surrendering all this property, and of opening wide the doors to treasury 'looting' is apparent."

The House Committee on Irrigation of Arid Lands later countered this argument by saying:

"The opponents of this measure have claimed that it would lead to a vast expenditure by the General Government \* \* \*. It should be borne in mind that it is not proposed to take a penny for the work contemplated out of the public Treasury \* \* \*. By no possibility can the expenditures under the bill exceed the proceeds of the sales of the public lands in the region affected by the bill \* \* \*."

#### Reclamation Act of 1902

A reclamation bill in its final form was introduced in the 1901-1902 session of the Congress. The Congressman who introduced the bill reiterated the payback principle:

"The purpose [of the reclamation bill] was to present a comprehensive plan, which would impose no burden on the taxpayers of the country \* \* \*."

Congressional activity culminated on June 17, 1902, with the passage of the Reclamation Act. In brief, the act created a Reclamation Fund to finance the building of irrigation projects. The fund was initially to be supported by the proceeds from public land sales and, upon completion of the projects, replenished with repayments from water users. <sup>1/</sup> Acting as a revolving fund, money was to be continually applied to irrigation projects under the direction of the Secretary of the Interior.

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<sup>1/</sup>Later, the fund was further augmented through revenues generated from the leasing of Federal oil and mineral rights.

The Congress clearly intended that the reclamation program be financially self-sufficient. The act required that water users repay all project construction costs within 10 years with a view of returning to the Reclamation Fund the estimated cost of building the project.

Although the Congress intended that the entire Federal investment be repaid, irrigation water users were exempt by the 1902 act from paying interest on their repayment obligations. According to the Chairman of the House Committee on Irrigation of Arid Lands:

"\* \* \* the Government, interested only in the settlement of the lands, can well forego any interest on investments and be content with the return of the principal."

It was clear that repayment was essential, since it was originally thought that the fund would be the only source of money for irrigation development. In his second annual report in 1904, the Chief Engineer for Reclamation stated:

"It is believed that this matter of refunding the cost should be made at all times the prime requisite in any project, and that no undertaking should be begun where it is not reasonably sure that the cost will be refunded within a short time."

#### REPAYMENT ASSISTANCE BECAME NECESSARY

By 1910 the fears of the reclamation program opponents became reality--the Reclamation Fund could no longer sustain itself without financial aid from the Treasury. Project water users were having difficulty meeting their repayment obligations because of financial hardships. To continue the program, the Congress authorized a \$20-million loan advance from the Treasury's General Fund in 1910 and another \$5 million in 1931. Since that time, most reclamation projects have been supported in one form or another by the Treasury's General Fund. (Today, the Reclamation Fund continues to receive major support from the Treasury's General Fund).

In addition to providing loan advances, the Congress passed several laws and amendments that changed the terms of repayment obligations. However, the principle of repayment remained unchanged.

#### Early legislative changes

To ease the water users' financial difficulties, the Congress enacted the Reclamation Extension Act in 1914. The act extended the repayment periods of existing projects to 20 years and authorized 20-year repayment periods for new projects. This extension was deemed necessary because the cost of establishing

irrigated agriculture on previously unfarmed land was much higher than anticipated and construction cost increases for water projects often exceeded original estimates.

Although the irrigation water users were having difficulty meeting their repayment obligations, the payback principle continued. In 1924 the Annual Bureau Report and a Presidential report reaffirmed the importance of this principle. These reports noted that the prosperity of farmers was a major objective, since only prosperous farmers could repay irrigation project costs and reestablish the Reclamation Fund. Agricultural prosperity was the key to repaying the total Federal investment.

In light of these reports, the Congress enacted the Omnibus Adjustment Act of 1926. This act authorized the Secretary of the Interior to grant relief by suspending construction charges against irrigators with nonproductive lands in certain projects and, at his discretion, to lengthen repayment periods in existing contracts up to 40 years. Repayment for irrigation users remained interest-free.

#### Reclamation Project Act of 1939

This act gave water users additional relief in fulfilling their repayment obligations. It recognized that project costs could be shared by other water users, allowed variable annual repayments, and provided for an up to 10-year, interest-free development period before starting repayment.

The act allowed M&I and hydroelectric power users to share in, and reimburse the Federal Government for, project construction costs. 1/

The act also established a variable repayment plan so that irrigation users could make payments on a sliding scale based on their annual crop returns--payments would increase in good years and decrease in bad years. Within the repayment period, all construction costs would be returned to the Reclamation Fund, as stated in a report from the Committee on Irrigation and Reclamation:

"The proposed plan provides for variation in the annual payments of construction charges in accordance with variations in the water users' ability to pay, without detriment to the established reclamation laws."

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1/Through various statutes, the Congress has directed that hydroelectric power be developed in Federal water projects. Administratively, the repayment period has been set at 50 years. The power is turned over to the Department of Energy for sale, with the rates for its sale established by the marketing agencies of the Department of Energy as approved by the Federal Energy Regulatory Commission.

The act also provided for a development period, not to exceed 10 years, to help irrigation water users develop their land to achieve the financial position necessary to meet costs before the 40-year repayment period starts. During this time, construction cost repayments would not be required.

#### The Water Supply Act of 1958

This act authorized the Corps and Bureau to provide space in Federal reservoirs for storing water to meet present and estimated future M&I water needs. It required water users to repay the Federal Government for all construction costs, including interest during construction, within 50 years after the water is first delivered or within the life of the project, whichever is shorter.

For repayment purposes, the 1958 act established a requirement that the interest rate to be used for computing M&I water user interest charges would be based on the computed average interest rate payable by the Treasury on its long-term borrowing (15-year maturity or call for redemption) in effect when project construction begins. This historical average rate is published annually by the Secretary of Treasury. Unless otherwise modified by specific project authorization, this financing interest rate provision remains the basis for specifying repayment today.

The act also authorized an interest-free financing provision. The Corps and Bureau were allowed to provide water supply capacity in their projects for anticipated future water demand. They could spend up to 30 percent of total project construction costs for building a future supply capacity in the project without receiving immediate repayment based on potential water users assurances for future use. The interest-free provision for future water supplies was provided to encourage cooperation between Federal agencies and local interests in developing future water supplies for M&I water users. The act provided up to a 10-year, interest-free period on the construction costs associated with future water supplies. These interest costs would be borne by the Federal Government.

#### CONCLUSIONS

Federal water laws contain specific provisions covering how water project users will repay the Federal Government for the cost it incurs to build water projects. Specifically, water users must repay their share of construction costs, with interest, except for irrigation and future M&I water users. These users do not have to repay interest costs. For those users who are required to repay interest costs, the laws prescribe how repayment rates will be determined. The cost of providing interest-free financing for irrigation and future M&I users is discussed in chapter 3, and the law's provisions for determining interest cost repayment rates are discussed in chapter 4.

### CHAPTER 3

#### INTEREST-FREE FINANCING IS COSTLY

The 1902 Reclamation Act, as amended, permits interest-free financing, as does the Water Supply Act of 1958, in certain instances. Early congressional intent is clear that irrigators would not be required to repay the interest costs associated with their share of construction costs. Likewise, under provisions in the Water Supply Act of 1958, M&I water users who use future water supplies from Federal water projects were also relieved of paying interest on the construction charges associated with such water for a period of up to 10 years.

When these interest subsidies were authorized for irrigation users at the turn of the century, they were considered well affordable because interest rates were very low and construction funds for the early water projects were obtained by selling public lands located in the western States rather than through taxation and/or public borrowing. Today, however, interest costs to build water projects are very high. With today's high interest rates, more and more tax dollars are needed to provide interest-free financing for irrigators and future M&I water users.

#### INTEREST COSTS HAVE BECOME SIGNIFICANT

When the Reclamation Fund was to be supported by revenues generated through the sale of public lands and project repayments, interest costs were probably not a great concern. However, when the Treasury was required to fund water projects with revenues obtained through public borrowing and/or taxation, interest costs not repaid by water users became costs to be borne by all taxpayers. The amount of these interest costs taxpayers must pay is affected by a change in any of the components used to compute interest costs--principal, rate, and time.

#### Water projects cost more

Since 1902 building costs for water projects have climbed steadily. Early projects were primarily small irrigation facilities that seldom cost much more than a few million dollars to build. For example, one of the first projects built under the 1902 Reclamation Act, the Newlands Project in Nevada and California, only cost \$1.25 million when it was authorized in 1903 (equivalent to a \$30-\$50 million dollar construction cost today). On the other hand, current projects are often massive, multiple-purpose facilities that cost hundreds of millions and sometimes billions of dollars to build. For example, the Bureau is projecting that the Central Valley Project in California, which is still under construction, will have been allocated about \$6 billion through fiscal year 1981. This amount (\$6 billion) includes about \$2.7 billion allocated to irrigation and about \$465 million allocated for M&I use.

Of the 80 some projects currently under construction and included in the Bureau's and Corps' fiscal year 1981 appropriations, authorized Federal construction costs will average about \$250 million per project, ranging from \$3 million to over \$2 billion.

#### Interest rates have risen

Like project costs, interest rates have risen significantly since the Congress first authorized interest-free financing for water projects. In 1931, when the Treasury started financing water projects on a continuing basis, the effective interest rate it paid on its long-term borrowing was less than 3 percent. The annual rate in effect when the Water Supply Act of 1958 was passed was just over 3 percent.

As the following table illustrates, the Treasury's borrowing costs have been steadily on the rise, with the March 1981 Treasury rate at 13.12 percent.

#### U.S. Treasury Constant Maturity Yield Rates (1958-81) (note a)

<u>Year</u>	<u>Rate</u>	<u>Year</u>	<u>Rate</u>	<u>Year</u>	<u>Rate</u>
1958	3.32	1966	4.92	1974	7.56
1959	4.33	1967	5.07	1975	7.99
1960	4.12	1968	5.65	1976	7.61
1961	3.88	1969	6.67	1977	7.42
1962	3.95	1970	7.35	1978	8.41
1963	4.00	1971	6.16	1979	9.44
1964	4.19	1972	6.21	1980	11.46
1965	4.28	1973	6.84	1981(Mar.)	13.12

a/Department of the Treasury, Board of the Federal Reserve System  
Capital Market Rates.

#### Repayment periods are longer

The Congress has extended the length of the repayment period numerous times since 1902. As discussed in chapter 2, it was lengthened primarily because agricultural water users were having difficulties meeting their repayment obligations within the authorized time periods. Although the Reclamation Project Act of 1939 authorized a maximum 40-year repayment period following a maximum 10-year development period, more recent projects have been congressionally authorized with 50-year repayment periods following a development period of no longer than 10 years.

Each of these extensions has had a tremendous impact on the amount of the interest subsidy. Keeping the interest rate and

project costs constant, the following table illustrates the effect time has on a million dollar repayment obligation at the March 1981 Treasury borrowing cost (13.12 percent).

\$1 million authorized at 13.12 percent

<u>Financing period in years</u>	<u>Interest cost</u>
10 (1902 act)	\$ 851,743
20 (1914 act)	\$ 1,867,633
40 (1926 act)	\$ 4,286,156
50 (1939 act)	\$ 5,573,831
60 (Individual project act)	\$ 6,876,831

INTEREST-FREE FINANCING FOR THREE CORPS  
AND BUREAU PROJECTS WILL COST THE  
TAXPAYER MORE THAN \$660 MILLION

To demonstrate how much it costs to provide interest-free financing for irrigation users, we selected two relatively new water projects being built by the Bureau. We selected a Corps project in Lakeview, Texas, to demonstrate the effect 10-year, payment-free financing for M&I future water supply users has on interest cost recovery. The interest-free or payment-free period financing for these three projects will cost the taxpayer more than \$660 million, or approximately \$150 million if discounted to its present worth. <sup>1/</sup>

The Tualatin Project in Oregon is a substantially completed, multiple-purpose project whose estimated construction cost for irrigation is about \$30.6 million. The Oroville-Tonasket Unit of the Chief Joseph Dam Project in Washington is primarily an irrigation project estimated to cost about \$64.8 million when completed. The interest subsidy for the two Bureau projects exceeds \$600 million, or more than six times their construction costs. The present worth of this subsidy is more than \$120 million. The Bureau estimates that more than \$10.3 billion in interest-free construction costs will ultimately be allocated to irrigation.

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<sup>1/</sup>Present worth is the dollar value today of a series of dollars received in the future. In this report future dollars receivable are discounted to show their worth in the year when the water project was (or is to be) completed. The following discount rates were used, 11.46 percent for Lakeview and Oroville-Tonasket and 7.61 percent for Tualatin.



The payment-free period subsidy under the future water provision of the 1958 act amounts to about \$53 million, or a present worth of \$30 million for the Lakeview, Texas, project. Together, the Corps and Bureau have about \$1 billion (\$237 million in completed projects, \$865 million in projects under construction or planned) allocated to future water storage for M&I users (more than 100 projects).

To compute the interest subsidies, we determined the difference between the actual payments required by the water user repayment contracts and the payments necessary to fully amortize the construction costs with interest. The difference represents the subsidy, or the interest amounts not reimbursed to the U.S. Treasury. Since the interest foregone today is worth more than interest foregone 50 or 60 years from now, we discounted all future dollars to their present worth.

#### Oroville-Tonasket Unit subsidy 1/

The interest subsidy provided to the Oroville-Tonasket irrigation water users over their 50-year repayment period will exceed \$463 million. In terms of its present worth, at the estimated completion date, this subsidy amounts to more than \$89 million.

To calculate the subsidy, we first computed the interest foregone during construction on a compound basis, using the Treasury's borrowing rates in effect during each year of construction. Because only about \$4 million has been spent on the project since construction started in 1979, we allocated the remaining \$61 million over a 6-year period ending in 1986. We used the Treasury's constant maturity rate in effect in 1979 to compute the interest in that year and the 1980 rate for the remaining 7 years. We also used the 1980 rate for computing the interest foregone during the repayment period.

To compute the interest foregone during the repayment period, we combined the interest costs accrued during construction with the construction costs. We multiplied this figure by 92.9 percent, the proportion of project costs allocated to irrigation. We then compared the actual payments as required by the repayment contract

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1/The Oroville-Tonasket Unit is primarily a new project to replace an old water distribution system serving 10,000 acres. The project was authorized in 1976 at a cost of \$39.4 million. As of March 1981 the irrigation portion of costs had escalated to about \$60 million. The project is estimated to be substantially completed in 1986.

with the payments that would be required to fully amortize the estimated construction costs with interest. The difference between each noninterest payment and payment with interest is the actual interest subsidy for each payment. To make the interest subsidy meaningful, we computed the present worth by discounting all the future payment differences at 11.46 percent per annum <sup>1/</sup> and totaled them over the 50-year life of the repayment contract--resulting in a subsidy of about \$89 million.

#### Tualatin Project subsidy 2/

The interest subsidy provided to the Tualatin Irrigation District users will exceed \$145 million dollars over their 60-year repayment period. The present worth of this subsidy amount exceeds \$37 million.

To calculate the interest subsidy, we again compounded the interest foregone during the construction period using the Treasury's borrowing rates in effect during each year of the construction period.

To compute the interest foregone during the repayment period, we combined the interest cost during construction with the construction costs allocated to the irrigation district, as we did in the Oroville-Tonasket example. Because the district was granted a 10-year development period and the project is substantially completed, we computed the interest foregone during the repayment period somewhat differently. We compared the first 10 annual payments required to fully amortize the construction obligation in 60 years with interest to the annual payments actually made during the 10-year development period as required by the repayment contract (none). We then compared the remaining 50 payments required to amortize the construction obligation with the payments required by the repayment contract. The differences between each noninterest payment and payment with interest is the actual interest subsidy for each payment. The total of these differences is the interest subsidy provided to the Tualatin Irrigation District--\$145 million.

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<sup>1/</sup>Represents the average constant maturity rate for 1980 provided by the Department of the Treasury (see p. 11).

<sup>2/</sup>The Tualatin Project is a multiple-purpose project authorized in 1966 to provide irrigation water for 17,000 acres. Construction began in June 1972 with irrigation repayment to start in 1986, allowing for a 10-year development period.

Subsidy for Lakeview Texas,  
M&I water supply users

The 10-year, payment-free provision of the 1958 Water Supply Act, as it applies to the future water supply of the Lakeview, Texas, Project will cost the Treasury about \$53 million. The present worth of this subsidy is about \$30 million. The Lakeview Project was to cost almost \$160 million to provide flood control, water supply, and recreation. It has been under construction since 1979 and is expected to be completed in 1986. The Corps has a contract with the Trinity River Authority for the future use of the project's entire 142,900 acre-feet of M&I water supply. The Corps estimates that the water users' share of costs, including interest during construction, will be about \$46 million.

The authority is required to repay its \$46 million construction obligation, with interest, over a 50-year period commencing from the date water is first used. No repayment, including interest, is required during the first 10 years following the date the project is operational for water supply purposes if the authority chooses not to take water during that period. If it takes some or all of the water before the end of the 10-year period, repayment starts at that time, with interest, over the next 50 years. The repayment amount is proportionate to the amount of water taken. After 10 years, if water is still not taken, the authority is required to pay interest only on the unpaid balance. The authority has the option to pay such interest as it comes due or allow it to accumulate on a compound basis until the water is used.

To calculate the Lakeview M&I water users interest subsidy, we computed the difference between the annual payments required to amortize the \$46 million construction obligation over 60 years and the zero annual payments for the first 10 years.

CONCLUSIONS

Substantial changes have occurred since interest-free financing was first authorized for irrigation and future M&I water users--construction costs and interest rates have risen and repayment periods are longer. These changes have caused interest costs associated with constructing Federal water projects to increase dramatically. Consequently, interest-free financing, once considered well-affordable, has become a costly burden on the U.S. Treasury. For example, this interest subsidy for three projects we reviewed will cost the Treasury more than \$660 million.

MATTERS FOR CONSIDERATION BY THE CONGRESS

Because construction costs and interest rates have risen and repayment periods are longer, we believe the Congress should take a fresh look at the interest-free subsidy in deciding future water project authorizations.

## CHAPTER 4

### INTEREST RATES PRESCRIBED BY FEDERAL WATER

#### LAWS DO NOT FULLY RECOVER

#### THE GOVERNMENTS' BORROWING COSTS

The Water Supply Act of 1958 requires M&I water users to repay their share of all construction costs--with interest. The act, however, precludes Federal water agencies from fully recovering the Treasury's borrowing costs to finance water projects because it (1) establishes interest rates that are lower than the Treasury's actual borrowing rates and (2) requires the agencies to use the interest rate in effect when construction starts for computing interest costs, rather than the actual rates in effect when the money is spent. Also, although not required by the act, the agencies use simple interest based on existing agency policy to compute interest during construction rather than more appropriate compound interest. <sup>1/</sup> As a result, U.S. taxpayers bear some of the interest costs that the Treasury incurs solely for the benefit of M&I water users.

#### WATER LAWS PERMIT COSTLY LOW-INTEREST FINANCING

The formula now used by the Corps and Bureau to determine the interest rates to charge M&I users is prescribed in the Water Supply Act of 1958. This formula, however, results in interest charges that are too low to recover the interest costs incurred by the Treasury. Even if the formula were accurate, interest rates would still be too low because of another requirement in the act: The agencies must use the interest rate in effect at the start of project construction to compute reimbursable interest costs during construction and during the 50- or 60-year repayment period rather than the actual interest rates in effect during each year construction funds were spent.

#### Interest rates do not recover borrowing costs

The interest rate required to be used by the 1958 act is formulated on the basis of the computed average interest rate payable by the Treasury upon its outstanding marketable

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<sup>1/</sup>An interest charge computed by applying the percentage rate of interest not only to the principal of the loan, but also to successive increments of simple interest. The interest itself becomes principal and therefore also earns interest in subsequent periods. Treasury computes the yield rate for its bonds and notes assuming semiannual compounding. The yields are based on an interest rate that is compounded semiannually.

public obligations (its long-term borrowing). This formula is computed by averaging rates the Treasury pays on long-term historical bonds (bonds that were issued in earlier years). Because of their date of issue, these bonds provide a rate of interest much lower than Treasury's current rates, and as such, significantly understate actual borrowing cost.

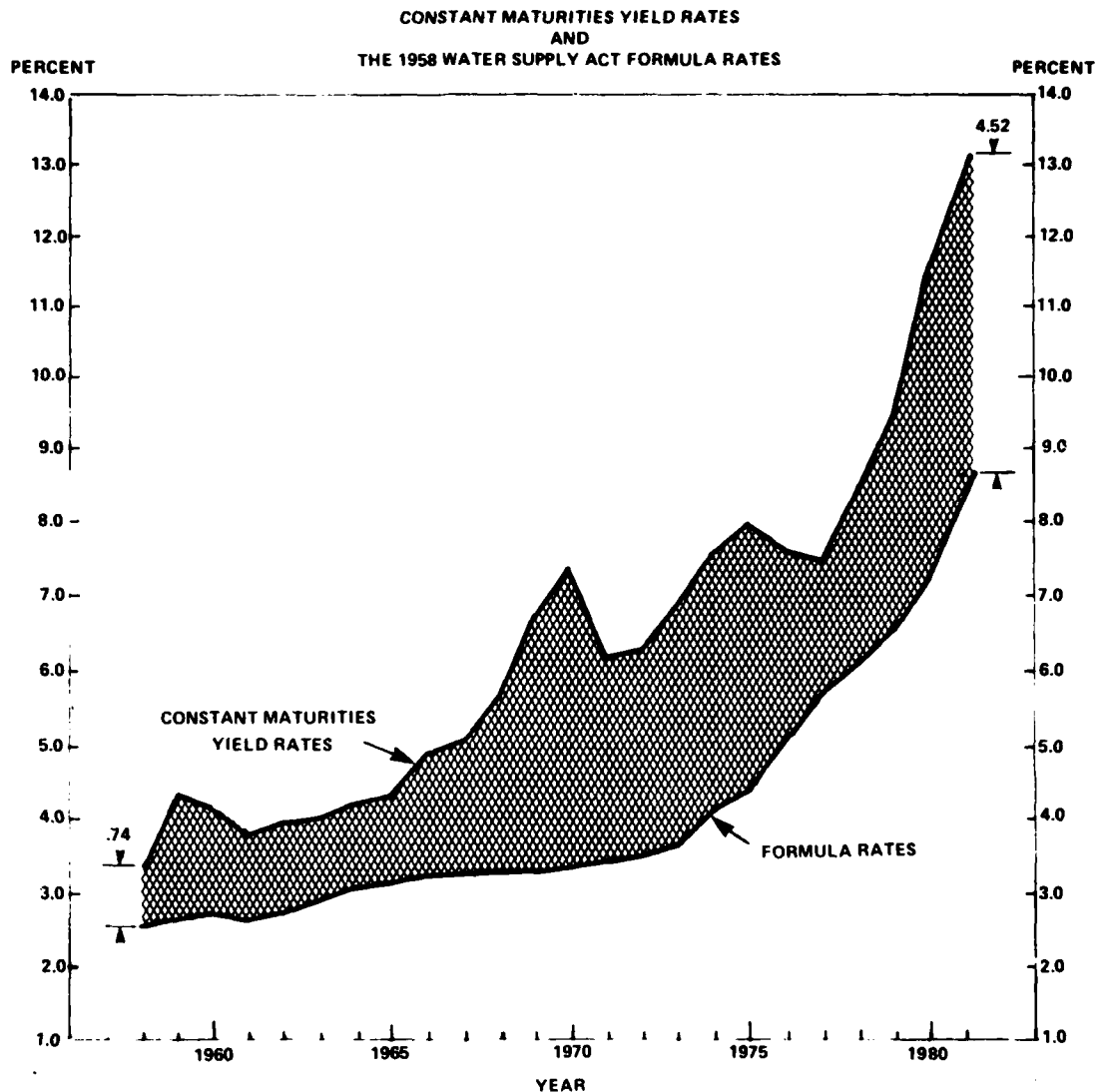
Financial economists at the Department of the Treasury and Federal Reserve Board agree that the full cost of borrowing funds to construct water projects cannot be recovered by using the interest rate formula under the Water Supply Act of 1958. In earlier reports 1/ we recommended that interest rates should be based on the average yields of the Treasury's long-term borrowing. Treasury officials agreed that this rate (average yields) results in more accurate rates than those computed using a formula rate based on long-term historical bonds, however, they suggest an even more accurate method. They believe that, given our present financial uncertainties, the most appropriate measurement of current Treasury borrowing costs is constant maturities yield rates. 2/

The chart on the next page illustrates the difference between the Treasury's actual borrowing costs and the charges to the water users based on the 1958 Water Supply Act interest formula rates.

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1/ "Change Proposed in Interest Rate Criteria for Determining Financing Costs of Federal Power Program", B-167712, Jan. 13, 1970, and "Legislation Needed to Revise The Interest Rate Criteria for Determining The Financing Costs of Water Resource Projects," B-167712, Aug. 11, 1972.

2/ Yield based on actively traded, recently issued 10-year notes and bonds that are adjusted on daily closing bid prices.



Using the Water Supply Act interest rate to compute reimbursable M&I interest charges rather than a rate that reflects the Treasury's borrowing costs precludes full interest cost recovery. To illustrate this point we computed the interest costs associated with a hypothetical \$10 million M&I water project with a 50-year repayment period using the two prevailing interest rates. The difference (or the subsidy) amounts to about \$20 million over the repayment period, which would have a present worth of about \$3.5 million.

Preset interest rates preclude  
full interest cost recovery

In addition to its inadequate interest rate formula, the Water Supply Act of 1958 contains a provision that requires the Corps and Bureau to compute interest costs by using an interest rate in effect when project construction starts rather than during the period when financing is provided. Since interest rates generally increase during this construction period, this preset rate will not recover actual interest costs.

Preset interest rates

The 1958 act requires that the agencies set the interest rate to be used for computing interest during construction and interest on the unpaid balance as of the beginning of the fiscal year in which construction begins. The agencies define "beginning of construction" as the date land is first purchased or the date the first construction contract is awarded. Several years can elapse between the time when interest rates are set under this policy and when the project is completed. (Since 1960 project construction periods on 36 projects have ranged from 2 to 16 years, averaging better than 5 years.)

Using preset interest rates--even if they were based on the Treasury's actual borrowing rates--precludes full interest cost recovery because the interest rates have generally increased throughout the construction and repayment periods. To illustrate this point, we compared interest costs based on the preset rate with those based on the rate in effect during the construction period for the Bureau's Canadian River Project in Texas. The Bureau used the Water Supply Act rate in effect in 1961 to compute interest costs during construction as well as on the unpaid balance. We used the rates in effect during each year construction funds were spent. By using the 1961 rate to compute interest costs during construction, the water users will be required to repay about \$1.2 million less than if the Bureau had used the actual rates in effect during each year of construction. The following table depicts the difference in interest costs 1/ by using these two rate-calculating methods.

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1/We did not use the yield rate for this illustration because we only wanted to show the amount of interest not recovered due to preset interest rates.



Canadian River Project  
Comparison of Interest Costs During Construction  
Using the Preset Interest Rate Versus the Annual  
Interest Rates

<u>Fiscal year</u>	<u>Rate in effect when construction started</u>	<u>Bureau calculation of interest costs</u>	<u>Annual interest rates</u>	<u>Our calculation of interest costs</u>	<u>Difference</u>
1961	.02632	\$ -	.02632	\$ -	\$ -
1962	.02632	44,390	.02742	46,010	1,620
1963	.02632	188,730	.02936	204,186	15,456
1964	.02632	486,087	.03046	543,872	57,785
1965	.02632	932,041	.03137	1,068,787	136,746
1966	.02632	1,461,485	.03222	1,708,694	247,209
1967	.02632	1,840,836	.03225	2,173,186	332,350
1968	.02632	1,959,807	.03253	2,319,087	359,280
1969-			.03256-		
1974 (note a)	.02632	13,679	.04012	17,964	4,285
Total		<u>\$6,927,055</u>		<u>\$8,081,786</u>	<u>\$1,154,731</u>

a/Water supply was available for use in fiscal year 1968 but the Bureau continued to spend funds until fiscal year 1974 to complete the reservoir.

Using preset interest rates during construction also affects the amount of interest recovered during the repayment period. Using these rates causes less interest during construction to be capitalized and amortized over the repayment period.

USING COMPOUND INTEREST WOULD INCREASE INTEREST COST RECOVERY

Federal water law does not specify whether the Corps and Bureau should compute interest costs on a simple or compound basis. In the absence of specific legislative guidance, the longstanding agency policy of both the Bureau and the Corps has been to compute interest charges for M&I users during construction on a simple basis. Using simple rather than compound interest costs the taxpayer millions of dollars each year.

The Water Resources Council <sup>1/</sup> recognized that using compound interest when computing interest during construction provides a more accurate portrayal of the Treasury's financing costs. In December 1979 the Council published its "Procedures

<sup>1/</sup>An interagency group that coordinates Federal water resources policy.

for Evaluation of National Economic Development (NED) Benefits and Costs in Water Resources Planning (Level C)" (18 CFR Part 713). These procedures required the Corps and Bureau to use compound interest during construction when developing cost data for planning future water projects.

Although the Council's procedures only apply to the planning of new water projects, the Commissioner of Reclamation extended the compound interest provisions to determining project repayment as well. In November 1980 the Commissioner issued a policy statement that required the Bureau to compute interest during construction for all future projects for repayment and accounting purposes, on a compound basis, citing the Council's procedures as his authority.

Although a step in the right direction, the new policy only applies to future projects that have not yet undergone the Bureau's lengthy planning process. The Commissioner excluded the use of compound interest when negotiating repayment contracts that stem from adopted planning reports that were prepared using simple interest. The reason for this exclusion, according to the Commissioner, was to provide an orderly transition from one policy statement to another. Because all projects before the November 1980 policy statement were planned with simple interest, the Commissioner in effect precluded the Bureau from applying his new policy to most projects that will be built in the immediate future.

The Corps, although bound by the Council's procedures for planning purposes, did not extend the compound interest provisions to project repayment. Economists agree that using compound interest would more accurately reflect the Treasury's cost of funds advanced to construct water projects.

To illustrate the significance of using simple versus compound interest to compute interest during construction, we computed the interest costs both ways for the Canadian River Project.

Canadian River Project  
Interest During Construction  
Simple Versus Compound Interest

<u>Year</u>	<u>Estimated construction cost</u>	<u>Interest rate</u>	<u>Interest Simple</u>	<u>expenses Compound</u>	<u>Difference</u>
1961	\$ 246,725	.02632	6,494	6,494	-
1962	2,882,242	.02742	85,796	85,974	178
1963	8,083,197	.02936	329,189	331,904	2,715
1964	14,512,384	.03046	783,570	796,496	12,926
1965	19,374,690	.03137	1,414,763	1,453,062	38,299
1966	20,857,096	.03222	2,125,113	2,211,267	86,154
1967	7,967,615	.03225	2,384,048	2,541,595	157,547
1968	107,200	.03253	2,408,233	2,649,827	241,594
1969	419,276	.03256	2,424,106	2,752,207	328,101
1970	118,664	.03342	2,492,099	2,920,838	428,739
1971	69,266	.03463	2,584,726	3,130,137	545,411
1972	19,026	.03502	2,614,502	3,275,672	661,170
1973	359,128	.03649	2,737,352	3,545,806	808,454
1974	54,184	.04012	3,011,836	4,042,972	1,031,136
Total	<u>\$75,070,693</u>		<u>25,401,827</u>	<u>29,744,251</u>	<u>4,342,424</u>

Both the Corps and the Bureau could recover millions of dollars in interest charges paid by the Treasury if they were required to compute interest during construction on a compound basis when negotiating future repayment contracts. Each agency has hundreds of millions of dollars invested in water storage projects that are not secured by repayment contracts. The Corps has about \$239 million invested in completed and uncompleted M&I water projects for which it did not have repayment contracts. Similarly, the Bureau has about 12 million acre-feet of water available for sale in projects without binding repayment contracts, as pointed out in our recent report. 1/

CONCLUSIONS

M&I water users are receiving millions of dollars in subsidies associated with interest cost repayments. These subsidies occur, in part, because Federal water laws contain provisions that prevent the Corps and Bureau from fully recovering the Treasury's borrowing costs for project construction funds. The Bureau and Corps policy of using simple rather than compound interest in negotiating repayment contracts increases these subsidy amounts.

1/"Changes in Federal Water Project Repayment Policies Can Reduce Federal Costs," CED-81-77, Aug. 7, 1981.

To ensure that M&I users repay their share of interest costs, the water project repayment provisions in existing Federal water laws need to be reformed. Without legislative reforms, M&I users will continue to receive millions of dollars in Government subsidies and the taxpayer will continue to pay for them.

#### RECOMMENDATIONS TO THE CONGRESS

We recommend that the Congress amend appropriate Federal law, particularly the Water Supply Act of 1958, as amended, to ensure that M&I water users fully repay their share of interest costs.

In amending the legislation, we recommend that the Congress require the Secretaries of the Army and Interior to

- use interest rates (developed by the U.S. Treasury) for computing interest during construction and interest on the unpaid balance that more appropriately reflect the Treasury's cost of borrowing funds,
- compute interest during construction using the interest rates (as developed in the preceding recommendation) in effect during each year construction funds are spent, and
- compute interest during construction on a compound rather than a simple interest basis.

We also recommend that where possible these provisions be applied to existing projects; for instance, where binding repayment contracts do not exist, when amending existing contracts, or awarding new contracts for future water sales. If requested, we would be willing to assist the appropriate committee staff in drafting proposed legislative revisions.

#### AGENCY COMMENTS AND OUR EVALUATION

This section contains the major comments received from the agencies responding to our request for comments and our evaluation of the comments. None of the comments required us to modify our conclusions, although we made suggested changes in the body of the report where appropriate. Appendixes I to IV also show our detailed evaluation of these comments.

The Department of the Army agrees with the concept of the report--that beneficiaries should pay for the cost of water projects wherever possible. It pointed out that the recommendations, if adopted, would eliminate some of the current interest subsidies. Further, it questioned why a recommendation was not made to eliminate the 10-year, interest-free period for M&I users. The intent of our report is to measure the increased cost associated with this type of subsidy. We did not evaluate the merit of retaining the 10-year, interest-free period.

The Department of the Interior also agrees with the recommendations and supports increased efforts to reduce the subsidy accruing to project beneficiaries. Recognizing the scope of our review, it pointed out that the interest subsidies in water programs should be considered in light of their national benefits as well as recognition that other Federal programs cost the taxpayers millions of dollars with little or no monetary return. We agree that national benefits and other Federal program costs should ultimately be considered by the Congress in deciding congressional repayment policy. We believe the cost information as presented, coupled with future congressional consideration of such benefits, will help the Congress develop equitable financing policies for Federal water projects.

The Department of the Treasury, from a cash management perspective, agreed with our recommendations to update interest rates charged and suggested that their adoption would serve the best interest of the Government. It further suggested additional cash management billing, collection, and intrinsic cost considerations in providing future Federal financing. We agreed and endorse these suggestions when considering repayment reforms.

The Water Resources Council, while agreeing that subsidies exist using the current policies, does not agree that they are without merit, particularly given the subsidies that occur in other water projects and programs. Further, it does not believe our conclusions and recommendations are substantiated based on congressional intent. It believes one can draw a different interpretation of firm commitment to the principle of repayment, given congressional actions and associated administrative policies over the past 70 years.

The issue of providing subsidies involves issues of merit determinations that were beyond the scope of this review. Such determinations will ultimately require congressional policy decisions. Addressing the issue of congressional intent, we recognize that there have been numerous modifications or easing of repayment terms over the years, however, we still believe that the original congressional intent of seeking repayment of Government cost has been maintained in the existing legislation. The long history of administrative interpretation and practice carries weight as well as evidence that Congress has been informed or otherwise made aware of existing subsidy practices. We believe, however, that changing conditions, as we have experienced today, warrant reconsidering repayment practices for future water projects and where possible for existing projects.

APPENDIX I

APPENDIX I



DEPARTMENT OF THE ARMY  
OFFICE OF THE ASSISTANT SECRETARY  
WASHINGTON, D.C. 20310

23 SEP 1981

Mr. Henry Eschwege  
Director, Community and  
Economic Development Division  
U.S. General Accounting Office  
Washington, D.C. 20548

Dear Mr. Eschwege:

This is in reply to your draft report to the Secretary of Defense titled "Millions of Dollars Could Be Saved Annually By Reforming Interest Provisions In Federal Water Laws," (GAO Code 085540) (OSD Case #5768).

We agree with the concept of your report, that beneficiaries should pay for the costs of water projects wherever possible. Your recommendations to the Congress, if adopted, would eliminate some of the current interest subsidies for water supply provided under the authority of the 1958 Water Supply Act. It is not clear to us why you are not also recommending the deletion of the 10-year interest free period as discussed on page 16. Specific comments on your report are provided in the enclosure.

Sincerely,

A handwritten signature in cursive script, appearing to read "W. R. Gianelli".

Enclosure

William R. Gianelli  
Assistant Secretary of the Army  
(Civil Works)

[GAO COMMENT: The intent of our report is to measure the increased cost associated with existing repayment provisions, including the up to 10-year, interest-free period provided in the 1958 Water Supply Act. While we did not evaluate the merit of retaining the 10-year, interest-free period, we do suggest congressional policy consideration of the need to continue this costly subsidy.]

Comments on Draft GAO Report  
"Millions of Dollars Could Be Saved  
Annually By Reforming Interest  
Provisions In Federal Water Laws"

1. Chapter 1, page 2.

a. 1st para. The so-called typical project of the 1980's as described would refer only to existing projects. New projects being studied or likely to be built in the 1980's are primarily small flood damage prevention with, in some instances, a water supply and/or recreation feature. The numbers of multipurpose reservoir projects which might be constructed in the next nine years are quite small due to constraints on the Federal budget and the fact that the non-controversial sites have, for the most part, already been developed.

[GAO COMMENT: Added "existing water project of the 1980's".]

b. 3rd para. The second sentence in this paragraph is in error; it must be changed to the following: "...under contract for M&I water uses, 1 million acre-feet of storage space for irrigation, and another 56 million acre-feet of storage space to be used jointly for irrigation and other purposes, primarily for the generation of hydroelectric power."

[GAO COMMENT: The suggested change was made.]

c. 4th para. We cannot verify the dollar values in this paragraph. However, the money spent for "water project construction" has no meaning with respect to repayment of M&I and irrigation costs. For example, the Corps' largest construction expenditure is probably in the Tenn-Tom Waterway with other major expenditures in the areas of hydropower.

[GAO COMMENT: The dollar values were clarified as related to all types of water project construction. Specific breakouts of dollar values for these specific two purposes were not readily available.]

2. Chapter 4.

a. Page 20. In line 7 of the first full paragraph, the statement "or the date the repayment contract is signed" is not Corps procedure.

b. Page 23, para 1. Our records indicate that, as of August 1980, for projects operational and under construction, the value of M&I water storage contracts (not secured repayment contracts) was \$239 million.

[GAO COMMENT: The suggested changes were made.]



FISCAL ASSISTANT SECRETARY

DEPARTMENT OF THE TREASURY  
WASHINGTON, D.C. 20220

SEP 14 1981

Dear Mr. Anderson:

This letter responds to your August 14 request to Secretary Re'gan for comments on GAO's draft report which discusses the need for congressional reform of interest cost repayment provisions in Federal water laws. From a cash management perspective, your recommendation to allow for updating rates charged under the water supply program is a good one and its adoption would serve the best interests of the Government.

Foremost in consideration of your report, it should be noted that intrinsic costs resulting from nonrecoupment of total amounts paid for financing the Federal water project construction are more pronounced than what is indicated. This is due to the fact that such costs include not only borrowing costs but also those associated with decreases in availability of monies to Treasury for purposes of investment which impacts the earning value of our temporarily excess funds held in tax and loan accounts. Presenting your findings in this vein would more aptly reflect the total costs borne by the Treasury for less than optimum Federal financial activity.

[GAO COMMENT: The fact that intrinsic costs from nonrecoupment of total amounts paid for construction are more pronounced than what is indicated supports our position that interest subsidies for all Federal water projects total in the billions of dollars.]

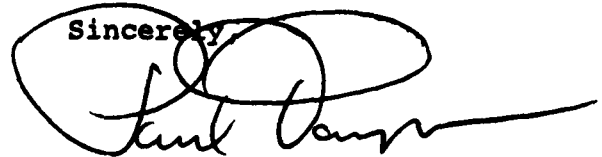
We also want to point out that two key items of cash management billing and collection policy were not addressed, which we believe would further the objectives of a payback program. In addition to revising the interest provisions, therefore, specified payment terms and late charges for overdue cost-sharing installments should be included. As a final suggestion, your recommendation should specifically indicate that the Treasury will provide the rates for computing interest during construction, interest on the unpaid balance, and charges for late payments.



[GAO COMMENT: To further the objectives of a payback program, the suggested considerations for cash management billing and collection policies are valid. We believe they should be considered in congressional deliberations for repayment reform. The recommendations in our report include requiring the use of interest rates developed by the U.S. Treasury.]

Bruce Budlong of the Treasury Bureau of Government Financial Operations is available to discuss these matters in more detail; his telephone number is 566-5125.

Sincerely,

A handwritten signature in dark ink, appearing to read "Paul H. Taylor", is written over a large, loopy circular flourish.

Paul H. Taylor

Mr. William J. Anderson  
Director, General Government Division  
United States General Accounting Office  
Washington, D. C. 20548

**UNITED STATES WATER RESOURCES COUNCIL**

SUITE 800 • 2120 L STREET, NW WASHINGTON, DC 20037

SEP 14 1981

Mr. Henry Eschwege  
Director  
Community and Economic Development Division  
U.S. General Accounting Office  
Washington, DC 20548

Dear Mr. Eschwege:

My staff and I have reviewed your draft report, "Millions of Dollars Could Be Saved Annually By Reforming Interest Provisions for Federal Water Laws," and we have the following comments for your consideration prior to publication of the final report.

The report addresses a subject of special importance and timeliness given the current focus on reducing Federal spending. The objective of the report, as stated on page 3, was "to determine whether existing water project financing policies and practices continue to have merit." The report determined that the particular financing practices which result in subsidies to the beneficiaries of M&I water supply projects are questionable and recommends three specific actions to reduce or eliminate the subsidies. While we agree that the current policies provide subsidies to M&I water users and that your recommendations are correct if the Congress wishes to change the current system, we do not agree a subsidy for the type of M&I water supply projects discussed in the report is without merit, particularly given the subsidies that occur in other water projects and programs, nor do we believe that your conclusion and recommendations are substantiated in the draft report.

[GAO COMMENT: More correctly, our objective was to examine the existing repayment requirements and document through selected examples the cost of providing interest subsidies. The issue of merit determination involves many factors beyond the scope of this review and will ultimately require congressional policy decisions. These decisions, we believe, need to be made based on changed conditions and financing cost information which is presented in this report.]

Your conclusion and recommendations depend primarily on congressional intent with respect to the principle of repayment of water project costs by the water users. The report establishes this intent by describing early debates and discussions of the 1902 Reclamation Act but subsequently states that while "the principle of repayment remained unchanged (p. 7)" over time, congressional actions did not necessarily follow it." The report shows that Congress authorized loan advances from the Treasury's General Fund as early as 1910 and again in 1931, extended repayment periods in 1914, provided relief from construction charges in 1926, provided additional relief in 1939, and authorized interest-free financing periods for M&I water supply projects in 1958. The report also notes that the "Reclamation Fund continues to receive major support from Treasury's General Fund" (p. 7). Given these congressional actions and the associated administrative policies over the past 70 years, one can draw a far different interpretation of congressional intent than one of firm commitment to the principle of repayment.

As to the conclusion that a subsidy for beneficiaries of COE and DOI M&I water supply projects is without merit and should be eliminated, your report could be enhanced by addressing the following kinds of questions:

- (1) How do interest subsidies for these M&I water supply projects compare with direct and/or interest subsidies in other Federal M&I water supply programs (i.e., FmHA) and other types of water projects (i.e., navigation and flood loss reduction)?
- (2) How do subsidies for these M&I water supply projects compare with subsidies in other capital investment programs, such as housing?
- (3) How do subsidies for these M&I water supply projects compare with the subsidies or incentives to the private sector which are either direct or indirect through the tax laws (i.e., accelerated depreciation and investment tax credits)?

Such comparisons would put these interest subsidies in perspective with other similar subsidies and stimulate a more informed discussion of the issues.

[GAO COMMENT: Both the Bureau and Corps are in agreement that it has long been the Nation's philosophy to require project costs for irrigation and municipal and industrial water supply to be repaid as a responsibility of project beneficiaries. Even though the repayment terms have been modified or eased numerous times over the years by congressional action, the bottom-line intent of seeking repayment of Government costs has not been waived. It is interesting to note that the legislation implementing these two programs stresses repayment and not subsidies. Although we agree that additional discussions regarding the issue of Federal subsidies may be helpful, our intent is to contrast the original basis on which this legislation was passed to today's changed conditions and thereby support congressional repayment reconsideration.]

## APPENDIX III

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In addition to these general observations about the report, we have a few comments and questions on specific items. First, the cost of early water projects described on page 1 as being seldom more than "a few million dollars" should also be shown in present value terms to permit a more accurate comparison with the current examples presented. For example, what is the present value of the \$1.25 million authorized for the Newlands Project in 1903 (p. 10)? Second, what discount rate was used to calculate the present values shown in the report? The footnote on page 13 defines present worth but does not mention the discount rate. Third, if you revised 100 projects (page 10) why not show at least some summary tables of the interest subsidies. The four examples selected, while showing the effect of the individual mechanisms addressed in the recommendations, may be misleading. Fourth, if the conclusions and recommendations relate only to M&I water supply projects, your heavy reliance upon the background of water supply for irrigation (exemplified by the Oroville-Tonasket Project) and subsidies to irrigation users detracts from the validity of your conclusion.

[GAO COMMENT: These specific suggestions were incorporated or clarified in the report. The discussion of irrigation interest subsidies and early congressional intent is essential to establishing the Nation's philosophy of seeking full repayment, which was carried forward in the passage of the Water Supply Act of 1958 for M&I water repayment.]

If you have any questions regarding our comments, please call. I hope our comments will be helpful to you as you prepare your final report.

Sincerely,



Gerald D. Seinwill  
Acting Director



## United States Department of the Interior

OFFICE OF THE SECRETARY  
WASHINGTON, D.C. 20240

SEP 17 1981

Mr. Henry Eachwege  
Director  
Community and Economic Development Division  
United States General Accounting Office  
Washington, DC 20548

Dear Mr. Eachwege:

Thank you for your letter of August 14, 1981, transmitting for our review your draft report entitled "Millions of Dollars Could be Saved Annually by Reforming Interest Provisions in Federal Water Laws." The report, though limited in scope, is well prepared and generally accurate.

As you state in the "Objective, Scope, and Methodology" section on page 3, you confined your investigations to the interest subsidy aspects of Bureau of Reclamation and Corps of Engineers construction programs. However, we believe that more explicit recognition should be given to the fact that the interest subsidies accruing to Federal water project beneficiaries are only one aspect of water development issues. There are significant National and regional benefits that need to be recognized and considered from the standpoints of developing National policy for financing and cost-sharing Federal water resource investment.

In addition, some recognition should be given to the fact that there are other major Federal water programs that cost the taxpayer millions of dollars with little or no monetary return. For example, your May 5, 1981, report entitled "Millions of Dollars Could be Saved by Implementing GAO Recommendations on Environmental Protection Agency Programs" (CED-81-92), made several positive recommendations on the Environmental Protection Agency's water pollution control program and the funds that could be saved by amending the Clean Water Act. Similarly, your November 18, 1980, report entitled "Congressional Guidance Needed on Federal Cost Share of Water Resource Projects When Project Benefits are not Widespread" (CED-81-21), dealt with issues surrounding Corps of Engineers and Soil Conservation Service programs and the need for increased contributions by project beneficiaries toward project costs.

Perhaps you may wish to undertake a study which would compare the benefits and costs of various water resource programs to give the Congress a perspective on which areas are most deserving of legislative attention. Our point is that Bureau of Reclamation programs and legislative authorities should be viewed in light of other water resource programs and their attendant costs and benefits in one document instead of on a piecemeal basis.

[GAO COMMENT: We agree that national benefits and Federal subsidies in other programs should ultimately be considered by the Congress in deciding congressional policy for water investment costsharing. Comparing the benefits and costs of water resource programs involves many factors beyond the scope of this particular review, as stated on pages 3 and 4 of our report. We measured increased costs associated with existing repayment provisions. We believe this information, coupled with future congressional consideration of such benefits, will provide essential information to support congressional repayment reconsideration.]

Despite the above comments on the limited scope, generally we agree with the recommendations (on page 24) that: (1) interest rates should reflect the Treasury's cost of borrowing funds; (2) interest during construction should reflect interest rates in effect during construction; and (3) interest should be on a compounded, rather than simple basis. Other specific comments and suggestions on the draft report follow.

On page iii, we suggest that the second sentence of the last paragraph be revised to read as follows: "The resulting interest rates, however, are about 5 percentage points lower than the interest rates incurred by the U.S. Treasury in financing water project construction."

[GAO COMMENT: The suggested change was made.]

On page 10, the first sentence of the second paragraph needs to be clarified.

[GAO COMMENT: The suggested change was made.]

On page 11, we recommend the third sentence of the penultimate paragraph be revised to read as follows: "Although the Reclamation Project Act of 1939 authorized a maximum 40-year repayment period following a maximum 10-year development period, more recent projects have been congressionally authorized with 50-year repayment periods following a development period of not to exceed 10 years." Current Reclamation policy would permit development periods beyond the first year of water deliveries when circumstances warrant; i.e., orchard crops or other situations where net benefits do not accrue during the first year of water use.

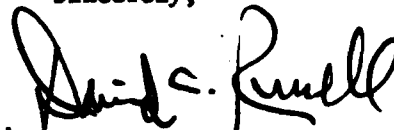
[GAO COMMENT: The sentence was clarified.]

On page 18, it is stated that financial economists at the Department of Treasury suggest using "constant maturity yield rates" as the basis for new repayment interest rates. However, we note that footnote 2 on page 18 cites the use of 10-year notes and bonds. As Reclamation projects and loans are most often repaid over time periods considerably in excess of 10 years, we wonder if it would be advisable to use 30-year note and bond rates instead of 10 years. Perhaps this point could be discussed in the final report.

[GAO COMMENT: Federal Reserve officials endorsed our use of the conservative 10-year bond series as the best available measure of Treasury's borrowing cost applicable for those projects we reviewed. Our recommendation on page 24 directs the Secretaries, for future projects, to use the interest rate most appropriate for water project financing. These rates are to be developed by the U.S. Treasury.]

On page 22, the synopsis and explanation of the Bureau's policy switch from simple to compound interest during repayment is accurate. Subsequent to the adoption of the November 1980 policy memorandum, we have directed the Bureau to make increased efforts to reduce the subsidy accruing to project beneficiaries. One area worth exploring would be application of the compound interest during construction policy in all current draft and final planning reports where it is legally permissible to do so. We will review this possibility and amend the November 1980 policy, if warranted.

Sincerely,



Acting Assistant Secretary for  
Land and Water Resources

DATE  
FILME